

PATENT

Attorney Docket No.: A-64789-3/RFT/RMS/RMK
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:) Examiner: Unknown
MEADE)
Serial No.: Unknown) Group Art Unit: 1652
Filed: Herewith)
For: DETECTION OF ANALYTES)
USING REORGANIZATION)
ENERGY)
TYPED NAME Mark Rancifer
SIGNED *M Rancifer*

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PATENT APPLICATION, ASSISTANT COMMISSIONER FOR
PATENTS, WASHINGTON, DC 20231.

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, DC 20231

Sir:

Prior to examination of the above identified application, please amend as follows:

In the Specification:

Please replace the paragraph beginning at page 1, line 2, with the following rewritten paragraph:

--This application is a continuing application of U.S.S.N. 09/417,988, filed October 13, 1999, U.S.S.N. 09/096,504, filed June 12, 1998, now U.S. Patent 6,013,170, and U.S.S.N. 08/873,977, filed June 12, 1997, now U.S. Patent 6,013,459.--

In the Claims:

Please cancel claim 1 without prejudice or disclaimer.

Please add the following new claims:

33. A composition comprising an array of electrodes, each electrode comprising a covalently attached binding ligand and a covalently attached solvent accessible transition metal complex comprising a metal selected from the group consisting of manganese, technetium, rhenium, iron, ruthenium, osmium, cobalt, rhodium, iridium, nickel, palladium, platinum, copper, silver and gold.
34. A composition according to claim 33 wherein said solvent accessible transition metal complex has at least two coordination sites occupied by polar coordination groups.
35. A composition according to claim 33 wherein said solvent accessible transition metal complex has at least one coordination site occupied by a water molecule.
36. A composition according to claim 33 wherein said electrode further comprises a self-assembled monolayer.
37. A composition according to claim 33 wherein said solvent accessible transition metal complex is covalently attached to said electrode via a spacer.
38. A composition according to claim 37 wherein said spacer is a conductive oligomer.
39. A composition according to claim 33 wherein said solvent accessible transition metal complex is linked to said binding ligand to form a redox active complex.

40. A composition according to claim 33 wherein said binding ligand is covalently attached to said electrode via a conductive oligomer.

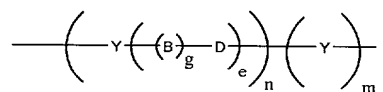
41. A composition according to claim 33 wherein said binding ligand will bind a protein.

42. A composition according to claim 33 wherein said binding ligand will bind a nucleic acid.

43. A composition according to claim 33 wherein said binding ligand is a protein.

44. A composition according to claim 33 wherein said solvent accessible transition metal complex is attached to said binding ligand.

45. A composition according to claim 38 wherein said conductive oligomer has the formula:



wherein Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10; and

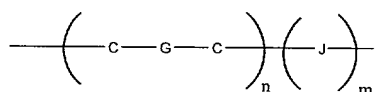
m is zero or 1;

wherein when g is 1, B-D is a conjugated bond; and

wherein when g is zero, e is 1 and D is preferably carbonyl, or a heteroatom moiety, wherein the heteroatom is selected from the group consisting of oxygen, sulfur, nitrogen and phosphorus.

46. A composition according to claim 44 wherein said aromatic group is phenyl, g is 1, and B-D is an acetylene linkage.

47. A composition according to claim 38 wherein said conductive oligomer has the formula:



wherein

n is an integer from 1 to 50;

m is zero or 1;

C is carbon;

J is carbonyl or a heteroatom moiety, wherein the heteroatom is selected from the group consisting of oxygen, nitrogen, silicon, phosphorus and sulfur; and

G is bond selected from alkane, alkene or acetylene.

48. A composition according to claim 33 wherein said metal is gold.

REMARKS

Claim 1 has been cancelled. Claims 33-48 are newly added.

Support for new claim 33 and 48 is found on page 4, lines 21-27, page 6, lines 10-26, and page 21, lines 1-14. Support for new claims 34-36 and 39-40 is found in original claims

2-7. Support for new claims 37 and 38 is found on page 7, lines 12-16 and on page 9, lines 17-22. Support for new claims 41-44 is found on page 9, lines 1-11. Support for new claim 45 and 46 is found on page 10, line 21 through page 11, line 10. Support for new claim 47 is found on page 15, line 18 through page 16, line 4.

The amendment of the paragraph beginning on page 1, line 2 was made to state the relationship of the present application to serial nos. 09/417,988, 09/096,504 and 08/873,977.

Attached hereto is a marked-up version of the changes made to the specification and the claims by the preliminary amendment. The attached page is captioned **"Version with markings to show changes made."**

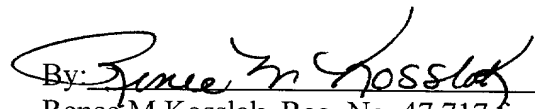
The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-64789-3/RFT/RMS/RMK).

Please direct any calls in connection with this application to the undersigned at (415) 781-1989.

Dated: 4/24/01

Respectfully submitted,

FLEHR, HOHBACH, TEST,
ALBRITTON & HERBERT

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1049840.RMK

In the specification:

Paragraph beginning at line 2 of page 1 has been amended as follows:

This application is a continuing application of U.S.S.N. 09/417,988, filed October 13, 1999, U.S.S.N. 09/096,504, filed June 12, 1998, now U.S. Patent 6,013,170, and U.S.S.N. 08/873,977, filed June 12, 1997, now U.S. Patent 6,013,459.

In the Claims:

Claim 1 has been canceled.